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IN REPLY REFER TO

AGDA (M) (14 May 70)

FOR OT UT 701262

22 May 1970

SUBJECT: Operational Report - Lessons Learned, Headquarters, 18th Engineer Brigade, Period Ending 31 January 1970

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BY ORDER OF THE SECRETARY OF THE ARMY:

*Kenneth G. Wickham*

KENNETH G. WICKHAM  
Major General, USA  
The Adjutant General

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DEPARTMENT OF THE ARMY  
HEADQUARTERS, 18TH ENGINEER BRIGADE  
APO 96377

AVBC-CG

31 January 1970

SUBJECT: Operational Report - Lessons Learned, 18th Engineer Brigade,  
Period Ending 31 January 1970, RCS CSFOR-65 (R2)

THRU: Commanding General  
U.S. Army, Vietnam  
ATTN: AVHGC-DST  
APO 96373

THRU: Commander in Chief  
U.S. Army, Pacific  
ATTN: GPOP-DT  
APO 96558

TO: Assistant Chief of Staff for Force Development  
Department of the Army (ACSFOR-DA)  
Washington, D.C. 20310

1. Section 1. Operations: Significant Activities

a. Personnel

(1) Awards: During the period 1 November 1969 through 31 January 1970, the following awards were presented to Brigade personnel:

Legion of Merit	4
Bronze Star (Valor)	44
Bronze Star	178
Air Medal	125
Army Commendation Medal (Valor)	31
Army Commendation Medal	1213

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Total	1595
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(2) Casualties: Casualties incurred by the 18th Engineer Brigade during the report period were:

Killed in Action	10
Wounded in Action	112
Non-hostile Deaths	15
Total	137

(3) Brigade Strength: As of 1 November 1969, the Brigade TOE authorized strength was 13,684. The percentage fill was 86.4% (11,684 assigned). On 29 November 1969, the 70th Engineer Battalion (Combat), with 351 assigned of 812 authorized, redeployed to CONUS for deactivation. On 31 January 1970, the Brigade TOE authorized strength was 12,872. The percentage fill had increased to 91.6% (11,794 assigned). Critical MOS shortages are 12B3/12B4 (Combat Engineer), 62J2 (General Construction Machine Operator), 63C4 (Motor Sergeant), and 76Y4 (Supply Sergeant).

b. Intelligence

(1) Enemy Activity: Although the total number of incidents increased 5% in the report period, KIAs decreased 30% and WIAs decreased 12%. The enemy is presently engaged in mining, sniper attacks, and stand-off rocket and mortar attacks on installations.

(2) Security Violations: The number of security violations decreased in the period, presumably as a result of increased attention to the proper handling and safeguarding of classified documents. SOIs are being turned in daily to appropriate custodian, unless needed during the night.

c. Operations

(1) Operational Support: Approximately 47% of the Brigade mission effort was expended in combat and operational support activities during the reporting period, compared to 54% in the previous period. Major activities are summarized below.

(a) Land Clearing: The three Brigade land clearing companies continued full scale operations in I and II Corps Tactical Zones, with bulldozer support from the combat and construction battalions. A total of 34,944 acres were cleared this reporting period.

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35th Group AOR: The 687th Engr Co (LC) completed operations in the southern coastal and Cam Ranh Bay areas on 30 Nov 69 and moved to the Ban Me Thuot area. The unit had cleared 5,910 acres along Route TL-1 by the end of the report period. On 14 Dec 69, the 2nd Platoon of the 687th was attached to the 937th Engr Gp to assist in clearing at An Khe. The platoon has cleared 3,260 acres in that operation to date.

45th Group AOR: The 59th Engr Co (LC), together with battalion land clearing teams, cleared 17,153 acres in Operation Saturate (Phu Thu District, coordinates YD850260) and in the Gaza Strip (BT240450), Leatherneck Square (YD140540), FSB Barbara, and FSB Rakkasan areas.

937th Group AOR: The 538th Engr Co (LC) cleared 8,621 acres in the report period. After completing operations in Binh Dinh Province and the Mang Giang Pass, the company worked in the Ben Het - Kontum area. At the end of the report period, the 538th was in maintenance standdown. Operations will begin in the vicinity of Pleiku on 16 Feb 70.

(b) Major Projects: Major projects which were completed in the period are given below. In addition to the projects listed, all elements of the 18th Engr Bde provided routine combat and operational support, including repair of enemy and weather damage to roads and bridges, daily route mine-sweeps, technical assistance, and miscellaneous tasks.

35th Group: The following major projects are among the 44 operational support projects which were completed during the period:

- TOC const, Thien Giao and Phan Thiet
- Revetment const, Bao Loc and Phan Rang
- Access road to LTL 8B and LZ Sandy
- Gun pad const, FSB Dorrie
- Afld repair, Nhon Co
- Bunker const, Phu Quy
- QL-1 by-pass const
- Armo berms, Nha Trang
- Guard Towers, Dong Ba Thin

45th Group: 29 operational support projects were completed in the period including the following:

- Bunker const, FSB Sarge
- TOC const, 1/61 Inf, Quang Tri
- Timber bridge const, YD 314458
- Revetment removal, 26th Gen Sup Gp
- Revetment const, 101st Abn Div, Camp Evans
- Upgrade access road to LZ Sharon, YD 340518
- Upgrade Rte 561, YD 151607

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Revetment const, 85th Evac Hosp

937th Group: 27 operational support missions were completed in the period, including the following:

Kin Song Bridge, Binh Dinh Prov  
Bern const for fuel bladders, Dak To  
Bunker const, CIDG camp, Plei Me  
CH-54 Helipads, 6/32 Arty, Tuy Hoa  
FSB const, Ben Het  
POL pipeline burial, Qui Nhon and Tuy Hoa  
FSB const, Quyet Thang

(2) LOC Construction: The level of LOC construction effort increased from 37.5% in the previous quarter to 47% at the close of the present period. 499,429 CY of rock were crushed and 55.5 KM were paved to CENCOM Standard. Although rain continued to hinder rock production and asphalt paving operations throughout the period, rock output increased by almost 5 times that of the previous quarter and approximately 20% more pavement was placed. Rock production and paving in the period were up 69% and 42%, respectively, compared to performance of the same months in 1968-1969.

(a) Scope: As of 31 January 1970, the LOC program entails completion of all priority I routes and QL-14 from Pleiku to RJ-7B by 31 December 1970. Consideration is being given to all weather road upgrade of QL-14 from RJ-7B to Buon Mech and LTL-7B from RJ-14 to Cheo Reo in preparation for later construction to CENCOM Standard. In addition, the section of QL-1 from Tuy Phong (DN 530410) to Ap Long Lan (50 KM) was deleted from the Brigade program and redirected to ARVN.

(b) ICAT: The effort of the Industrial Complex Assistance Team began to pay dividends in the report period. Command emphasis has been directed through the work of ICAT to the areas of safety, maintenance, quality Control, construction procedures, and the flow of information between all levels of command. In addition, considerable effort has been devoted to evaluation of long range plans, with particular emphasis on the optimal deployment and utilization of available assets.

(c) Completed Projects: QL-1, Phu Tai to Binh Thanh; subbase prepared for contractor completion.

(d) Project Starts: QL-14, Pleiku to RJ-7B.

(3) Base Construction: Base construction activity has leveled at about 6% of the total Brigade mission effort. Re-evaluation of projects by the USARV Facilities Review Board has resulted in the termination of 16 projects and redirection of 6. As of 31 Jan 70, 5 suspended projects were still

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under consideration. There are presently 39 active projects, excluding MACV Advisors' Facilities. There were 48 active projects at the close of the previous quarter.

(a) Major Projects: The POL Jetty Dolphins and the Ammo Barge off-loading Facility, both in Qui Nhon, were the two most important base construction projects completed in the period. The Seawall Repair at Cam Ranh Bay and the POW Detention Center at Cheo Reo are the most important projects currently underway.

(b) MACV Advisor Facilities: Of the 43 directed projects, 31 are complete, 9 are in progress, and 3 have yet to begin.

(c) Well Drilling: Substantial progress has been made in the well drilling program. To date, 10 of the 24 scheduled wells have been drilled.

(d) Engineering Plans: The Engineering and Plans Section continued to check designs, provide technical assistance to subordinate units, and conduct the quality control program throughout the Brigade area of operations.

(e) Designs: Most notable of the design plans produced during the period are the preliminary plans for bridge QL-11-52, the standard masonry head-wall plans, and the precast concrete revetment plans. The living/fighting bunker design was modified to increase its strength against lateral soil pressure load. In addition, a number of plans were reviewed.

(f) Technical Assistance: During the period, numerous field trips were made for the purpose of checking construction methods and to give technical assistance as requested by Groups and Battalions. A feasibility study of realignment of QL-1 between Whiskey Mountain and Hoa Da resulted in the recommendation that the existing route be maintained.

(g) Quality Control: Implementation of the Brigade Quality Control Plan continued during the period. New test equipment was distributed and additional partial soils test sets were ordered for use at company level. Personnel with knowledge or experience in the areas of soils analysis, soils investigation, and asphalt testing have been assigned according to priorities of need. The Brigade quality control regulation was modified to correspond to the newly published USAECAV Bulletin 415-6. Acceptable test limits were added to the Brigade regulation in Annex A. Field visits were made for the purpose of checking quality control measures and providing instruction in correct testing and operational practices.

(h) Operation Last Chance: A Brigade program entitled Operation Last Chance was initiated on 1 January 1970 with the objective to achieve maximum production in the 1970 construction season through optimum utilization of



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assets. In conjunction with this program, the construction reporting system has been modified to account more accurately for battalion effort. The data of this system should provide commanders at all levels with useful performance information. Attached at Inclosure 1 is a letter to all units from the Commanding General, 18th Engr Bde, which sets forth the provisions and objectives of Operation Last Chance.

d. Organization: The current Brigade Unit Station List is attached as Inclosure 2. Unit moves during the period were the following:

- (1) C Co., 19th Engr Bn, moved from Camp Brown to Hot Rocks.
- (2) D Co., 19th Engr Bn, moved from Camp Idaho Beach to Cam Ranh Bay.
- (3) The 70th Engr Bn was deactivated.
- (4) The 59th Engr Co. (LC) moved from Phu Bai to FSB C2.
- (5) A Co., 20th Engr Bn, moved from Ben Het to Engr Hill.
- (6) B Co., 20th Engr Bn, moved from Engr Hill to An Khe.
- (7) D Co., 20th Engr Bn, moved from Kontum to Engr Hill.
- (8) B Co., 84th Engr Bn, moved from Miami Beach to Bong Son.
- (9) D Co., 299th Engr Bn, moved from LZ Uplift to An Khe.
- (10) The 538th Engr Co. (LC) moved from Road Camp to Engr Hill.
- (11) The 49th Engr Det (WD) moved from Dak To to Engr Hill; subsequently relocated to LZ English.
- (12) The 614th Engr Det (PD) moved from Engr Hill to An Khe.

e. Logistics

(1) Construction Materials: The supply situation has improved in regard to small dimension lumber (1x, 2x, 4). This material will be dropped from the USARV controlled items list shortly after the end of the report period. Lumber which can be installed within 14 days from the date of delivery may be requisitioned by battalions for those requirements which the Brigade S-4 determines to be valid. To preclude shortages of bridge materials in CY 1970, the Brigade S-4 has requested the Groups to report the number of bridge components on hand for every projects underway or scheduled to begin this year. This information will be forwarded to USARV Construction Materials Branch. In December, all Groups were requested to mark bridge steel assets with identification for specific bridges. Steel in depots was marked in the same manner.

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(2) RVNAF Transfer: During the period, the 35th Engr Gp supplied equipment to the 63rd ARVN Engr Bn in Nha Trang and the 45th Engr Gp supplied equipment to the 805th ARVN Heavy Equipment Company in Da Nang. As of 31 Jan 70, the transfer was over 90% complete. Completion is scheduled NLT 31 March 70. Command emphasis has been focused on the necessity of reconditioning equipment before it is shipped to the transfer site. Although much new equipment has been issued to Brigade for direct transfer to ARVN, 20 ton crane accessories are in short supply and have not been received from demt stocks. The Brigade cannot continue to give these accessories to ARVN without replacement.

(3) TOE Equipment: Items which are short in the Brigade are 60 ton lowbed trailers and crane accessories of various types. The number of 60 ton lowbeds on hand as of the end of the period is 29% of TOE allowance. These critical items, which have been on requisition for many months, are needed both for mission requirements and to meet ARVN transfer requirements.

(4) MCA Activities: Upon completion of the MCA equipment distribution, the MCA Project Office was consolidated with the Brigade Maintenance Section. The MCA Project Officer has assumed the duties of Maintenance Officer, while retaining responsibility for MCA activities. The consolidation effected elimination of one officer position and two enlisted positions.

f. Surgeon

(1) Personnel: The combat engineer battalion medical section consists of 14 personnel; the construction battalion has an 11-man medical section. These personnel allowances are considered to be inadequate in the circumstance of wide dispersion of companies within the battalion AOR. Furthermore, a shortage of senior medical aidmen (MOS 91B30, 91B40, 91C20) exists within the Brigade. Senior medics are critically needed in units with dispersed elements. In remote areas, senior medics are often the only medical personnel available for emergency treatment of casualties. OJT of less experienced personnel is not possible because there are no field hospitals in the vicinity of isolated units. Also, to send junior medics for hospital OJT is not practical in view of the limited number of personnel presently available.

(2) Equipment: Present TOEs do not include microscopes, laryngoscopes, urine centrifuges, respirator-resuscitators, and sterilizers. This equipment is needed in isolated areas that are remote from medical facilities. For example, referrals from Ban Loc (19th Engr Bn) are dispatched to the 8th Field Hospital in Nha Trang, which entails an 8 hour drive or an hour and 20 minutes helicopter flight. The above equipment would enable routine blood tests and VD tests to be performed at the battalion aid station. Of even greater importance is the fact that emergency care would be much more effective with the utilization of respirators and endotracheal intubation.

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(3) Reference Materials: Medical reference libraries are needed at battalion level so that both surgeons and aidmen are able to stay abreast of current medical information as well as to further their training.

(4) Medevac Support: Because of poor communication and the distance from Medevac elements at Phan Thiet, personnel wounded recently in the Bao Loc area arrived at the 8th Field Hospital as late as six hours after injury. This experience is typical of the problem that exists with isolated units of the Brigade. More responsive Medevac support should be arranged for such units, particularly in periods of increased enemy activity.

(5) Malarial Incidence: The high incidence of malaria in some units was traced to failure of individuals to take chemoprophylaxis (malaria pills). The introduction of urine testing for chloroquine-primaquine levels has helped to alleviate this problem. Individuals with negative test results are supervised in taking the malaria pill. Test results are given to unit commanders so that they may take appropriate action.

(6) Recommendations

(a) The medical section of the combat battalion that are dispersed in isolated areas should be increased to 20 EM, in addition to the NCOIC and battalion surgeon.

(b) Each medical section of those battalions which are remote from dispensaries or field hospitals should be provided a microscope, a urine centrifuge, a laryngoscope, an autoclave with endotracheal tubes, and respirator-resuscitator.

(c) Medical texts and journals should be made available to battalion medical sections.

(d) Medevac aircraft should be stationed in the immediate vicinity of isolated battalions.

(7) Actions

(a) USARV has been informed of the shortage of senior medics (MOS 91B30, 91B40, 91C20). This is recognized as a general problem throughout Vietnam.

(b) Due to the present moratorium on MTOE-MTDA actions, an appropriate recommendation for modification of personnel and equipment allowances has not been submitted. However, the Surgeon General, USARV, has been informed of the inadequacies of existing organizational and equipment allowances under the present deployment situation of this Brigade. A portion of the technical equipment listed above has been obtained through the Surgeon General's Office on a six month loan basis. Other needed items have been obtained through various arrangements at the local level, so that Brigade medical requirements are currently being met. Changes to TOE authorization will be recommended to insure the

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availability of necessary equipment and personnel upon cancellation of the MTOE moratorium.

(c) A Medevac team was provided for direct support of the 19th Engr Bn after this was requested through IFV.

2. Section 2, Lessons Learned: Commander's Observations, Evaluation, and Recommendations.

a. Personnel: None.

b. Intelligence: None.

c. Operations:

(1) Use of Plastic for Waterproofing

(a) Observation: Sheets of plastic which were put on creosoted bunker roofs for water proofing developed holes and did not serve the intended purpose.

(b) Evaluation: Creosote will gradually dissolve plastic materials.

(c) Recommendation: Place a layer of earth over the creosoted surface before placing the plastic.

(2) Placement of MSA1 Matting

(a) Observation: A Co., 20th Engr Bn, reports that MSA1 matting of various manufacturers is not completely interchangeable.

(b) Evaluation: The locking devices of different manufacturers are often incompatible.

(c) Recommendation: MSA1 matting should be segregated by manufacturer lot. Only one manufacturer's product should be released for each job.

(3) Balancing Generator Loads

(a) Observation: The circuit arrangement at Woolly Bully necessitated continuous operation of two 150 KW generators. Generator #2 was severely underloaded, as it powered only the hot oil heater and perimeter lighting. Generator #1 powered the asphalt plant and the asphalt transfer pump.

(b) Evaluation: By putting the asphalt transfer pump on generator #2, generator #1 can be shut down with the plant, while dedrumming and transfer continue. This should extend the life of generator #1. The greater load on generator #2 should increase its life.

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(c) Recommendation: In the case of multiple generator systems, loads should be adjusted so that generators operate at not less than 80% of rated capacity. Within the parameters of efficient loading and operational requirements, the circuitry should allow the maximum amount of shut down time for the system.

(4) Security for Land Clearing Operations

(a) Observation: The 687th Engr Co (LC) reports excellent security support from a platoon of the 2/1 Cavalry Squadron during land clearing operations in Binh Thuan Province, 11 Aug 69 through 7 Oct 69.

(b) Evaluation: The mobility of armored cavalry greatly facilitates a fast and efficient cutting operation.

(c) Recommendation: Armored cavalry should be used to provide security for land clearing operations, subject to conditions of availability, terrain, and the scale of the operation.

(5) Rain Screen on 175 MM Ready Bunker

(a) Observation: The sheet metal roof and 2" x 4" roof frame tend to come apart under the concussion of a 175 MM gun. The 1" x 8" siding also pops off the bunker walls due to the blast.

(b) Evaluation: The roofing material can be held down with sand bags. However, the pitch of the roof is such that the sand bags must be anchored. A sand bag network can be made with #10 wire and draped over the roof like a saddle. The frame can be adequately strengthened by using 4" x 4" material in place of 2" x 4". Vertically placed lumber can be nailed over the siding to hold it in place.

(c) Recommendation: The rain screen frame on a 175 MM ready bunker should be made of 4" x 4" material to withstand blast and the weight of sand bags on the roof. The sand bags must be anchored, preferably with #10 wire. The 1" x 8" siding should be nailed down with 2" x 4" or larger material, placed vertically at the columns.

(6) Fire in Dozer Belly Pans

(a) Observation: While operating in dense undergrowth, the 687th Engr Co (LC) experienced overheating and fires in dozer belly pans.

(b) Evaluation: The accumulation of twigs and leaves in the belly pan of a dozer will ignite under engine heat.

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(c) Recommendation: A lining of standard window screen on the hood and side engine guards will help to prevent the accumulation of combustible material in dozer belly pans. The screens can be cleaned easily by the operator each day.

(7) Preparation for Land Clearing Operation

(a) Observation: A land clearing team of the 39th Engr Bn was engaged in clearing operations south of Da Nang from 14 Dec 69 through 1 Jan 70. The team deployed with 8 dozers. The original bivouac site, which was secured by elements of the 2nd ROK Bde, was found to be too small for that amount of equipment. Logistical problems were also encountered in the first 5 days of the operation. Rain prevented helicopter resupply of parts and hydraulic oil.

(b) Evaluation: A contingency supply of parts and lubricants would have helped to keep equipment operational during the period of bad weather. A platoon size element requires a bivouac area of at least 500' diameter for adequate dispersion and working space.

(c) Recommendation: Bivouac areas should be checked for adequacy prior to deployment of a unit. Also, several days' supply of lubricants and common repair parts should be taken to the work site with each dozer.

(8) Dismantling Revetments for Reassembly

(a) Observation: A test was conducted at Quang Tri Airfield by 2nd platoon, B Co, 14th Bn, to develop experience factors in the dismantling of standard 8' high x 4' wide aircraft revetments for reassembly at a new location.

The following three disassembly techniques were utilized:

- Method 1: Hand excavation, removal of all bolts, and salvaging of all components.
- Method 2: Cut bolts with torch, allowing sides to fall free. No hand excavation.
- Method 3: Cut openings near bolts, allowing use of wrench in bolt removal. No hand excavation.

The test sections were 20' long. The following planning factors were established, based on a 4 man work crew and a standard 10' section:

- Method 1: Disassembly requires approximately 5 hours.
- Method 2: Disassembly requires approximately 1½ hours.
- Method 3: Disassembly requires approximately 3 hours.

(b) Evaluation: Reuse of standard revetments is possible, but requires a considerable amount of effort. Transportation to the new site is also a consideration. If damage to components is unacceptable, method 1 must be used. Methods 2 and 3 are faster, but result in bending of some components. Consequently, some new components will be required with methods 2 and 3. Method 2 requires a supply of bolts.

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(c) Recommendation: Because relocation of revetments requires considerable effort, it should be attempted only when materials are in short supply.

- d. Organization: None
- e. Training: None
- f. Logistics: None
- g. Communications: None
- h. Materiel: None

2 Incl

Letter: Operation Lost Chance

~~18th Bde Station List~~

Incl 2 wd HQ, DA

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- 1 - CO, 937th Engr Gp, APO 96318

*[Signature]*  
J. W. MORRIS

Brigadier General, USA  
Commanding

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AVNOC-DST (31 Jan 70) 1st Ind

SUBJECT: Operational Report - Lessons Learned, 18th Engineer Brigade,  
Period Ending 31 January 1970, RCS CSFOR-65 (R2)

HEADQUARTERS, UNITED STATES ARMY VIETNAM, APO San Francisco 96375 21 JAN 1970

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,  
APO 96558

Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D.C. 20310

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 January 1970 from Headquarters, 18th Engineer Brigade.

2. Comments follow:

a. Reference item concerning "20 Ton Crane Accessories", page 7, paragraph e(2); concur. Components such as fairlead attachments, crane booms and boom extensions are not authorized for stock in Vietnam. The items are controlled by the USAMECOM NICEP and require normally six to nine months procurement lead time.

b. Reference item concerning "60 Ton lowbeds", page 7, paragraph e(3); concur. The 52½ ton low bed semitrailer XM747 will replace the 60 ton low bed semitrailer. The semitrailer will be issued with the hi-mounted 5th wheel 10 ton M123E3 tractor as a matched set. Neither the tractor nor the semitrailer has been released by USAMC for issue. Availability is dependant on completion of AMCR 700-34 testing. Availability has been forecasted as September 1970 pending completion of testing. Current requisitioning procedures will remain in effect until TO&E's and TA's are converted to new line numbers for authorized vehicles.

c. Reference item concerning "Placement of M8A1 Matting", page 9, paragraph c(2); concur. Initial procurement of M8A1 matting was made from approximately five different manufacturers. Of these only one manufacturer's product was not interchangeable with the rest. This was corrected in future production runs. Only a small amount of non-interchangeable matting should be in the supply system.

d. Reference item concerning "Balancing Generator Loads", page 9, paragraph c(3); concur. Generators should be operated under a load of a minimum of 85% rated capacity. Operation at less than 85% is not



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conductive to long generator life and is a waste of available assets. The recommendation stated in this paragraph is sound, but the figure of 80% load should be increased to 85%. No further action is required by this or higher headquarters.

e. Reference item concerning "Fire in Dozer Belly Pans", page 10, paragraph c(6); concur. This recommendation will serve to keep trash from accumulating in the belly pans of dozers operating in dense overgrowth. However, extreme care must be taken by the operator to keep the screen clean to prevent engine overheating. Additionally, the belly pans should be removed, daily, if necessary, and cleaned to prevent the accumulation of debris. No further action is required by this or higher headquarters.

FOR THE COMMANDER:

Cy furn:  
18th Engr Bde

  
L. D. MURRAY  
CPT, AGC  
Assistant Adjutant General

GPOP-DT (31 Jan 70) 2d Ind  
SUBJECT: Operational Report of HQ, 18th Engineer Brigade for Period  
Ending 31 January 1970, RCS CSFOR-65 (R2)

HQ, US Army, Pacific, APO San Francisco 96558 10 APR 70

TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D. C. 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

*D.D. Cline*

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DEPARTMENT OF THE ARMY  
HEADQUARTERS, 18TH ENGINEER BRIGADE  
APO 96377

AVBC-OP

1 January 1970

SUBJECT: Operation Last Chance

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1. This letter establishes a program entitled Operation Last Chance in support of Brigade Goal #3. Operation Last Chance is intended to emphasize the singular importance of the 1970 construction season to the engineer mission in Vietnam. Our current strength and equipment posture will gradually decline during the next 12 months. Therefore, I feel a sense of urgency to develop a program which is thrust toward achieving maximum results with the resources now available and to be available in months immediately ahead. Key features of the program are to:

a. Continue our healthy attitude towards maintenance. We should not be trapped into sacrificing scheduled and routine maintenance. Short term or daily production records achieved at the expense of maintenance represent a losing investment.

b. Eliminate non-productive effort of men and equipment and limit effort on low priority tasks. Inclosure 1 lists some specifics which may be applicable to one or more of your units. As targets we should:

(1) Reduce overhead and supervision, as defined, to below 45% of total workforce. A Brigade-wide 1% increase in productive workforce is equal to 120 men or about one company equivalent effort.

(2) Reduce productive effort expended on 18th Bde projects below 10% in any unit and as near to 0% as possible.

(3) Effective 5 January, program all units on a 70 hour weekly work schedule including during operational maintenance and commander's time (5 hours) for mandatory training, chapel, etc. Motor stables and normal travel are not included. In isolated instances security and long travel distances will infringe on full 10 hours at the worksite, but we should seek ways and means to minimize the impact of these constraints. Some battalion size units are presently operating at 110% of the 65 hour on the job

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schedule.

c. Manage and plan our work to increase effectiveness and efficiency. There are many ways to "build a better mouse-trap." Imaginative analysis will reveal these opportunities and practical tests will prove their worth.

2. These features may seem stringent at first observation; however, all are being equaled or bettered by certain units in the Brigade. On close review you will note that, as is normally the case, the real challenge is for the unit leader. For this reason this program will be welcomed by and will identify the strong leader for he will soon:

a. Use his intelligence and ingenuity to develop plans and programs to increase efficiency and production without degrading required maintenance.

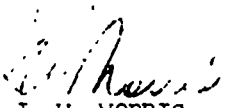
b. Recognize the urgency of fulfilling our mission.

c. Instill a comparable sense of purpose in the attitude and performance of his men. Experience in Vietnam has proven time and again that the engineer soldier will respond to accomplish any task if informed, motivated, and most importantly, properly led.

3. In summary, the basic theme to be stressed in developing Operation Last Chance is that we must, during the next construction season, complete as much of our current mission as is possible. Our achievement during this next six months will to a large degree establish the final record of how well the engineer has met the challenge of Vietnam. If those of us presently in the 18th Brigade do our job well, the military, political, and economic strength of the Republic of South Vietnam will be improved significantly. If we fall short, those who have served, fought, and died in Vietnam, beside and before us will have been let down. I am confident that together we will rise to the challenge and by the end of 1970 will have assured the total fulfillment of the 18th Brigade mission in Vietnam.

4. This program and its implementation through Group, Battalion, and Company level will be the subject of future correspondence, and of presentations to be made at the Brigade Commanders Meeting on 28 January 1970.

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J. W. MORRIS  
Brigadier General, USA  
Commanding

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## METHODS TO INCREASE PRODUCTION

### 1. GENERAL.

a. From recent studies completed by the Brigade Construction Operations Section, it appears that the Brigade may not be providing all possible available production effort to our customers. This analysis indicated that approximately 25% of the work accomplished has been expended on our own camps and compounds. Considering recent moves and adverse weather, this approximation may not represent an unreasonable diversion, but to meet current production schedules and complete our operational tasks, the effort devoted to our own facilities must be restricted to an absolute minimum.

b. Percentages are important. A 1% reduction in overhead as a percentage of total Brigade strength can free 120 men each day - the equivalent of one engineer company. In similar fashion, a small percentage increase in effective haul utilization can significantly increase our net LOC construction progress.

2. ORGANIZE FOR PRODUCTIVITY. Each unit has its unique tasks and its own situation which should be analyzed to streamline operations and increase productivity. The suggestions below are only broad guidelines:

#### a. PERSONNEL.

(1) Insure accurate preparation of the Enlisted Personnel Inventory Report (PIR) at battalion level, thus insuring proper replacement requisitioning at Brigade level. Improper preparation has caused the Brigade to under-requisition by as many as 300 per month in the past.

(2) Closely monitor senior NCO and officer requisitions, to insure they are submitted within the proper time frame.

(3) Concentrate on personnel management at Group and Battalion level to insure that qualified personnel, especially those with specialized construction skills, are assigned properly where they can best serve the Brigade.

(4) Create incentive by maintaining a rapid system of official and public recognition for exceptional performance. Achievement awards are particularly appropriate, but must be reserved for particularly meritorious achievement to avoid downgrading their value.

b. RECONNAISSANCE. Develop and utilize the reconnaissance section for the collection of engineer technical intelligence. Expand the traditional search for quarries and borrow pits to include the location and identification of construction materials. A recent survey for bituminous products turned up hidden assets which had remained unnoticed in a period of impending shortage.

#### c. MAINTENANCE.

Incl 1 to Incl 1

(1) Schedule night maintenance to the maximum extent, especially on critical items of equipment.

(2) Exercise tight control on vehicle usage.

(3) Insist on preventive and scheduled maintenance. Remember, no one day of production is as important as a day or an hour of scheduled maintenance.

d. OPERATIONS.

(1) Program and schedule on the basis of a seventy hour work week, with five hours as commander's time. The unit commander should be able to account for all activities during the 70 hour period.

(2) Place emphasis on planning procedures at all levels.

(3) Maximize personnel in productive effort while minimizing overhead. Consolidation of administrative and mess functions within a battalion is a consideration.

(4) Make maximum use of LN labor force.

(5) Tailor units for production - this appears particularly appropriate to vertical and horizontal functions on LOC work. Normal company organization and employment is likely to be too cellular and overly heavy in supervision.

(6) Establish high standards and objectives with numerous incentives for attaining them.

(7) Minimize time lost to the noon meal through use of C-rations distributed prior to work or feeding hot meals at the job site.

(8) Gear toward production in all phases of unit operation.

(9) Schedule make-up periods for lost time from rain.

(10) Plan ceremonies on free time rather than during work week.

(11) Consider the possibilities of LOC construction in areas where traffic is light on Sunday.

e. SUPPLY.

(1) Requisition materials far in advance through long range planning and close coordination with the Operations Section.

(2) Pre-stock materials for projects - on the job site when possible.

(3) Do not commit valuable manpower effort on tasks until all essential materials are on hand or assured for timely receipt.

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